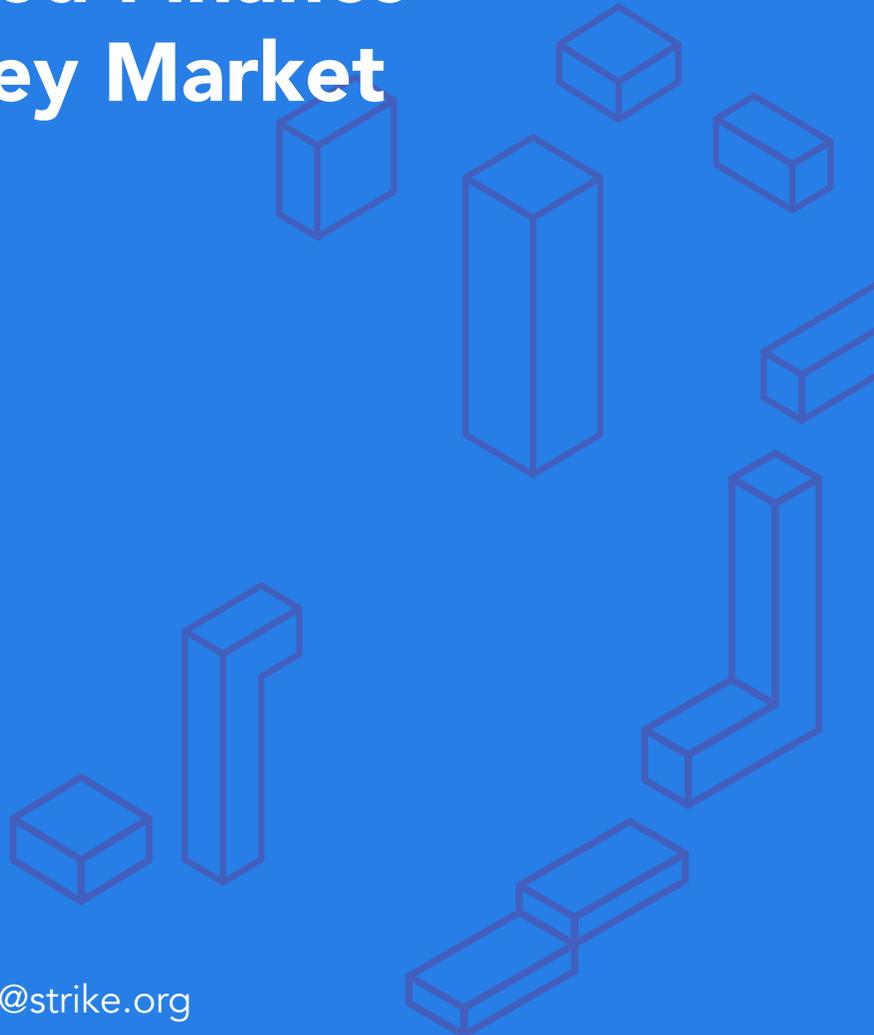




Strike

**Decentralized Finance
based Money Market**

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Abstract: Strike is an autonomous and decentralized money market that enables variable based rates for supplying digital asset collaterals to the protocol and from borrowing digital assets from the protocol with over-collateralized assets. The tokenization of digital assets onto the Strike protocol will unlock liquidity from that asset without having to liquidate and/or sell that asset in the market. Money Markets allow users to tap into a peer-to-peer marketplace where all interactions are validated against open-source smart contracts running on the immutable Ethereum blockchain. The entire Strike protocol is operated by its community with no centralized control or team tokens exercising power over the protocol's governance. Strike is designed to protect the equilibrium between borrowers and suppliers by allowing liquidators to handle bad vaults and collecting a premium for stabilizing the protocol. Strike users are in control by interacting with the STRK utility token to govern and operate the platform with consensus.

Disclaimers

Strike is an open-source project built on the Ethereum platform. Strike Tokens ("STRK") have not been sold and no initial coin offering (ICO)/initial token sale has been conducted. STRK are only available for mining and the existing supply was distributed during the launch of protocol for immediate utilization.

Strike tokens are not securities, investment contracts, or any security-based instrument and are exclusively designed as utility tokens for consumptive use on the Strike protocol. STRK is not intended to constitute securities or financial instruments in any jurisdiction. This whitepaper does not constitute a prospectus or offer document of any sort and is not intended to constitute an offer of securities or a solicitation for investment in securities in any jurisdiction. There should be no expectation of profit from STRK tokens as there is no common enterprise or company that you are affiliated or contributing to. This Whitepaper does not constitute or form part of any opinion on any advice to sell, or any solicitation to purchase any STRK nor shall it or any part of it nor the fact of its presentation form the basis of, or be relied upon in connection with, any contract or decision. The Strike protocol is a high-risk platform where all assets are at risk of total loss. Please exercise caution when using the protocol. The protocol is not controlled by any company, group, or individual, but rather it was created for free and maintained by the community and open-source developers. The Strike protocol is a peer-to-peer network operated by a series of smart contracts that are open-source. Any purchase of STRK will be for consumptive purposes only and for within the protocol such as Governance, voting, and for mining. Strike is not available for residents and/or citizens of the United States or any OFAC sanctioned country and is strictly prohibited from being accessed by these residents and/or citizens from those countries.





Strike

Introduction & Value Proposition

Strike is a decentralized money market forked from the Compound protocol and designed to focus scaling a larger availability of supported collateral and lower the threshold of entry for new collateral. With the current architecture and parameters of the Compound protocol there is a requirement of 100,000 COMP which is equivalent to approximately \$15,000,00 to create a proposal to add a new asset into Compound with a required quorum of 500,000 COMP. The Compound protocol recently enabled a mechanism where users can crowd-fund the required COMP to make a proposal, but it still requires nearly \$15 million dollars in COMP plus \$60 million in COMP voted support quorum to pass. This does bring a higher level of security in adding non-qualified assets, but it does make the scalability of the platform hindered. With Strike, the barrier to entry becomes much more feasible to add more collateral without having to have a trade-off of lower security. The value proposition in Strike is to enable elected governors, similar to delegates, who can white list which assets can be added into the protocol and then enable the community to vote on them. Governors are community members voted in by their peers with delegated STRK tokens.

With the Compound protocol, there is a great deal of control to venture capital firms and early investors into Compound Labs. Therefore, the current distribution and dilution of COMP is very disproportionate. This gives the company very centralized powers at this time. There are plans to distribute over 4 million COMP over 4 years to the platform users. It is estimated that by the end of this time, it is hoped that the platform is sufficiently decentralized, but there will still be huge control of the supply by institutions.

With Strike, the token governance of the platform will be very distributed. The governance process will be decentralized from the day the protocol is launched with over 45% of the total maximum available tokens circulating. Strike presents itself with a max cap of 6,540,888 tokens and enabling approximately 3.5 million STRK to be mined through liquidity mining (farming) incentives on the Strike Protocol over a recommended period of 8 years. This will distribute STRK per block to platform users. With these token economics (“tokenomics”) the Strike protocol will be sufficiently decentralized at launch and the STRK token will have immediate utility within its platform.

Protocol

Strike is a decentralized money market that enables users to borrow and supply digital assets to the protocol within a non-custodial environment directly within the Ethereum blockchain. This means that users, at all times, have control of their digital assets and are bound by the protocol’s parameters directly on-chain. The protocol is autonomous and algorithmic with its parameters being controlled by governance proposals and yield curves. Strike users can access the platform via smart contracts, the Strike API, or via a frontend application. The main functionality of Strike is to enable users to supply collateral to either earn as a supplier or to use as collateral to borrow other digital assets from the protocol.



Governance

The Strike governance smart contracts control the changes and decisions that are made on the protocol. This part of the protocol is forked from Compound and follows the entire same principals with added benefits of Governors who are 21 addresses delegated by Strike Token holders. Governors are able to white list new assets that are to be added to the protocol to prevent malicious actors to participate in attacking Strike. Governors are the top 21 weighted addresses from either STRK balance or delegated STRK balances. Governor cycles are built around Epochs that last 28 days. At the conclusion of the 28 days, there will be a new set of Governors elected, which may be the same re-elected or new ones that make it to the top 21.

When a new digital asset is to be whitelisted on the protocol, these 21 delegated Governors will vote on-chain to add the digital asset to the supported list of available digital assets. Thereafter, a formal proposal must be created and voted on. All Strike Token holders will be able to participate thereafter on the protocol's decision on the addition or removal of white listed digital assets. By enabling this process, not only does the protocol now have a low barrier of entry to enable on-chain additions of digital assets, but it fixes the security trade-off by having Governors in place to white list coins that fit the protection and scalability of Strike.

Each Strike Token is considered to be 1 vote weight, therefore, 1 STRK equals 1 vote. There is a requirement of 65,000 STRK to form a proposal which requires 130,000 STRK to meet a quorum of approval at a minimum. With these two parameters in mind, their still needs to be majority voted on based on the allowed time limit of approximately 72 hours based on block speeds on the Ethereum blockchain. Users can create proposals that enable new white listed digital assets to be added, which price oracles to use, digital assets to be removed, reserve factors, collateral ratios, protocol reserve use, yield changes, and virtually all parameters on Strike via the Governance smart-contracts. Each Governance proposal that passes requires an approximate 48 hour wait period before it may be executed by anyone on-chain. If the proposer has a lower than 65,000 STRK balance at any point during the proposal, any user may cancel the proposal on-chain.

Strike Token (STRK)

The Strike Protocol is governed and rewarded by its native cryptocurrency called Strike Tokens (STRK). Strike Tokens are built and deployed on the Ethereum blockchain and are ERC-20 based assets. STRK enables users to create proposals, vote on proposals, and participate in liquidity mining incentives on the platform. Strike Tokens were made available through distribution to holders and users. This means there will be no team supply, the protocol will be decentralized, and the users will mine the remaining supply until the max supply is reached. With Strike, there will be a max supply of 6,540,888 Strike tokens to ever exist. This means users are able to mine the remaining approximately 3.5 million STRK which will be made available through liquidity mining (farming) incentives on the protocol. The following allocation and distribution is recommended below but is ultimately controlled by Strike Governance.

Allocation	Distribution Date
3,000,000 STRK	Upon protocol launch
3,540,888 STRK	8 Years of STRK distribution

To mine STRK from the protocol, Strike will evenly distribute based on the weight of the distribution per market. 50% goes to suppliers and 50% goes to borrowers and the distribution ratio is determined by the borrow sizes of all respective markets. Speeds are determined by Governance proposals per market that is currently available and that is to be added and can be ultimately changed.

sTokens

Within Strike, there are native tokens called “sTokens” that are pegged to the underlying supported digital asset. For example, sUSDC is pegged to USDC. These sTokens are portable and can be transferred between Ethereum Wallets. The primary purpose of sTokens are to represent the proportionate value of the underlying asset on the protocol and to redeem the underlying asset at any time.

With the primary use cases defined, sTokens can be minted and burned directly on the protocol via the user-interface, API, or smart-contracts. The process to mint sTokens means that the underlying digital asset has been supplied to the protocol. The burn process relates to redeeming the underlying asset and destroying the sToken that was used to claim it.



Yield curve

To make the Strike protocol autonomous, there is a yield curve rate mechanism implemented in order to dictate borrow and supply rates. Instead of having a market where individuals and the users of the protocol are negotiating rates, this yield curve rate enabled equilibrium within each market. It follows a traditional macroeconomics model of supply & demand. When the demand for a certain market, or in other words a low borrow utilization, the borrow rates should be lower and more lucrative and the supply rates will be lower as well. When borrow utilization increases in comparison to the supply available, the market demand is higher, thus a higher yield rate will be charged and supplied to both sides of the market. This yield curve determines both the borrow and supply rates of the protocol and is autonomous based on the supply and demand of Strike. This curve rate is controlled through code and is controlled by the Strike governance processes. The methodology of the yield curve is forked from Compound in Strike which follows the model which is represented by utilization ratio U for each market a unifies supply and demand into a single variable:

$$U_a = \text{Borrows}_a / (\text{Cash}_a + \text{Borrows}_a)$$

This model is the rate earned by suppliers which his is equal to the borrowing rate then multiplied by the utilization rate.

$$\text{Borrowing Interest Rate}_a = 2.5\% + U_a * 20\%$$

Once a transaction interacts with the Strike smart contracts, the rate index for the assets market is updated to compound the rate since the prior index. This process executes on-chain using the rate for the period, denominated by $r * t$, calculated per block as shown below:

$$\text{Index}_{(a,n)} = \text{Index}_{a,(n-1)} * (1 + r * t)$$

Within that digital asset market, the total borrowing outstanding is then updated to include the rate accrued since the last index as shown below:

$$\text{totalBorrowBalance}_{(a,n)} = \text{totalBorrowBalance}_{a,(n-1)} * (1 + r * t)$$

Lastly, the protocol is protected by reserves that are accumulated in the protocol for a wide range of security options available via the Strike governance mechanisms. Therefore, a portion of the accrued rate is accumulated by the protocol which is set by the reserveFactor parameter, which ranges from 0 to 1, as shown below:

$$\text{reserves}_a = \text{reserves}_{a,(n-1)} + \text{totalBorrowBalance}_{a,(n-1)} * (r * t * \text{reserveFactor})$$

By factoring all of the logic above, Strike will give a fair and autonomous rate model controlled by a curve yield that is directly calculated on the Ethereum blockchain.



Suppliers

Since Strike is decentralized, that means users have control of their digital assets at all times. The process of which a user transfers digital asset to the protocol is through the mint function which correlates to supplying collateral to Strike. Once the digital asset is successfully supplied and confirmed on the blockchain this will mint the proportionate sToken for the underlying asset.



Borrowers

When a user wants to initiate a borrow function, they are using their supplied digital asset as collateral that will be used to guarantee that the borrow balance gets paid back. The rate of fees that the user will pay will be added per Ethereum block. To determine how much of a borrow limit a user has will be contingent on a few factors. First the protocol will take into consideration how much the collateral is currently valued.



Collateral Factors

Each digital asset market has a collateral factor which is set by the initial smart contracts and then controlled by the governance process. Collateral factors determine how much you can borrow against your supplied digital asset.



Reserve Factors

To ensure protocol security and upkeep, each digital asset market in Strike has a reserve factor which determines a small percentage of the rates charged stay within the protocol. These funds can be controlled and used by the governance process for Strike.



Liquidations

Liquidations occur when a user executes the liquidation command on the Strike smart contracts. These events occur when a user is over their collateral factor percentage of either a specific market or in totality. There will be a liquidation penalty imposed when this occurs to the borrower.



Conclusion

Strike aims to become a scalable decentralized money market built on the Ethereum blockchain. The protocol will be sufficiently decentralized upon the protocol's main network deployment and will be governed by Strike Tokens (STRK). Strike will enable users and developers to build decentralized finance (DeFi) based application on the Ethereum blockchain for their own use cases. The protocol's scalable nature security trade-off by implementing a novel governor method of delegates to ensure a community based security model.





Strike